

DERKACHEV, A.A.

Deformation calculation of frame systems composed of thin-walled elements. Iz. Otd. geol.-khim. i tekhn. nauk AN Tadzh. SSR
no.1:13-24 '59. (MIRA 14:8)

1. Institut seysmostoykogo stroitel'stva i seysmologii AN
Tadzhikskoy SSR.
(Structural frames) (Deformations (Mechanics))

16.4100

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32521

S/044/61/000/011/044/049

C111/C444

AUTHOR: Derkachev, A. A.

TITLE:

The application of the method of quickest descent for the calculation of thin-walled bars with variable stiffness

PERIODICAL:

Referativnyy zhurnal, Matematika, no. 11, 1961, 40, abstract 11V227. (Dokl. AN Tadzh SSR, 1959, 2, no. 3, 3-6)

TEXT:

The differential equation for the torsion of a thin-walled bar with open cross section and variable stiffness

$$E[I_{\omega}(z)\theta']' + G[I_k(z)\theta']' = m(z)$$

is solved by the method of quickest descent according to L. V. Kantorovich (Uspekhi matem. nauk, 1948, 3, vyp. 6). Here $I_{\omega}(z)$ is the variable sectorial stiffness, $I_k(z)$ is the stiffness merely of the torsion, m_z is a function, describing the distribution of the twisting load. In dependence on the position or fixation at the ends $z=0$ and $z=1$ the searched function $\theta(z)$ satisfies several boundary conditions. [Abstracter's note: Complete translation.]

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S/169/62/000/003/007/098
D228/D301

AUTHOR: Derkachev, A. A.

TITLE: Determining the calculated values of seismic forces

PERIODICAL: Referativnyy. zhurnal, Geofizika, no. 3, 1962, 13-14,
abstract 3A121 (Tr. In-t seysmostoyk. str-va i seys-
mol. AN TadzhSSR, 8, 1960, 4-36)

TEXT: The representation of the seismic load on a structure, whose
calculated scheme is taken to be a console embedded in the basement,
as a series with respect to the forms of vibrations is incorrect,
despite the fact that it is taken as the basis of standards CH-K
(SN-8) to 57. The elasticities arising in a structure are neutrali-
zed by two systems of forces: by the inertial load of the relative
movement of the console's points and by the inertias of the abso-
lute movement of the structure together with the ground. The magni-
tude of the calculated seismic loads depends on the coefficients
 K_c and $B(T)$, whose customary values have not been adequately sub-

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stantiated. The seismic load formula, proposed by I. L. Korchinskiy, takes into account the inertias of relative movement, but it absolutely disregards the inertias of the absolute movement of a structure as a rigid whole. The mistaken position of I. L. Korchinskiy about the proportionality of the accelerations of different pivotal points to the ordinates of the forms of the vibrations at the same points is also adopted in A. G. Nazarov's method. On the basis of the concept introduced by S. V. Medvedev about action spectra, the seismic load at a certain point of a structure, bearing n centered masses, can be represented as the sum of the loads with respect to different tones of vibration. There are no grounds for reckoning that this expression coincides with the true value of the seismic load at a certain moment of time. Any method devoid of these errors should be founded on the use of a formula, constructed on the basis of the following assumptions: 1) The inertias are proportional to the flexures according to the main form of the free oscillations; 2) the forces of inelastic resistance at the moment $t = t_1$ are negligibly small; 3) the accelerations of the relative movement and the

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ground movement can be considered as independent quantities, which may be added algebraically; and 4) the vibrations of structures arise from the flexures, relative to the basement and the rotation of the whole structure, together with the basement around the horizontal axis, situated above ground level, by virtue of which the structure's basement shifts in relation to the ground, when the relative movement of the basement and the ground movement may also be subject to the principle of superposition. [Abstracter's note: Complete translation.]

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S/169/62/000/002/023/072
D228/D304

AUTHORS: Derkachev, A. A. and Bibarsova, D. G.

TITLE: The question of the genesis of vertical seismic forces during horizontal ground oscillations

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1962, 20, abstract 2A141 (Tr. In-ta seysmostoyk. str-va i seysmol., AN TadzhSSR, 8, 1960, 95-101)


TEXT: During a given basement shift the forced oscillations of a frame system with distributed masses can be represented by means of a system of differential equations in individual derivatives whose number equals the number of frame elements. In addition to this one equation in a vectorial form may be considered in place of the system of equations. Any vector, being a solution of this equation, can be resolved into a series for the vectors which are solutions of the correspondingly similar equation. In view of the orthogonal nature of the solutions of a uniform equation, the coefficients of resolution are determined from the system of independent

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differential 2nd-order equations in respect of the time. In the example of the simplest P-shaped frame having a singly-centered mass in the middle of the span, with both rigid and hinged joints, it is shown that the influence of the vertical weight displacement is negligible for frames with rigid interties. For frames with flexible interties this influence is substantial and should be taken into account in the calculation. /-Abstracter's note: Complete translation._7



Card 2/2

DERKACHEV, A.A.

Bilateral evaluation of the critical value for the parameter
of longitudinal loading in designing frames for strength.
Dokl.AN Tadzh.SSR 2 no.2:3-8 '59. (MIRA 13:4)

1. Institut seysmostoykogo stroitel'stva i seysmologii.
Predstavleno akademikom AN Tadzhikskoy SSR S.U.Unarovym.
(Structural frames)

DERKACHEV, A.A.

Using the fastest release method in designing thin-walled
rods with variable rigidity. Dokl. AN Tadzh. SSR 2 no.3:
3-6 '59. (MIRA 13:4)

1. Institut seymostoykogo stroitel'stva i seysmologii AN
Tadzhikskoy SSR. Predstavleno akademikom AN Tadzhikskoy SSR
S.U.Umarovym.

(Elastic rods and wires)

DERKACHEV, A.A.; SUKHAREVSKIY, B.P.

Deformation calculation of thin-walled rods for transverse
load. Trudy Inst. seism. stroi. i seism. 9:5-15 '61. " (MIRA 15:11-)
(Elastic rods and wires)

DERKACHEV, A.A.; BIBARSOVA, D.G.; BEGIYEV, B.B.

Solution of some problems of the dynamic stability
of thin-walled rods. ~~Trudy~~ Inst. seism. stroi. i
seism. 9:119-136 '61. (MIRA 15:11)
(Elastic rods and wires)

PIKOVSKIY, A.A.; DERKACHEV, A.A.

Dynamic theory of stability. Trudy Inst. seism. stroi. i seism.
11:4-33 '62. (MIRA 16:5)

(Stability)

DERKACHEV, A.A.

A.F. Smirnov's matrix method. Trudy Inst. seism. stroi. i seism.
11:34-55 '62. (MIRA.16:5)
(Matrices) (Stability) (Vibration)

DERKACHEV, Anatoliy Andreyevich; MIKHAYLOV, L.G., otv. red.

[General theory of the method of a majorante elastic
system] Obshchaia teoriia metoda mazhorantnoi upru-
goi sistemy. Dushanbe, AN Tadzhik SSR, 1963. 75 p.
(MIFA 17:10)

DERKACHEV, A. A.

Method of calculating seismic effects using standard accelerograms. Biul. Sov. po seism. no.14:69-76 '63.

(MIRA 16:4)

(Earthquakes and building)

107-57-1-33/60

AUTHOR: Derkachev, B. (Kinel')

TITLE: Mast Without Guys. Experience Exchange (Machta bez ottyazhek. Obmen opytom)

PERIODICAL: Radio, 1957, Nr 1, p 27 (USSR)

ABSTRACT: A short description of a do-it-yourself no-guy mast that can be turned within a 90-degree angle is presented. The mast consists of steel pipes and wooden members. There are 2 figures in the article.

AVAILABLE: Library of Congress

Card 1/1

AZOS, S.; AREF'YEV, A.; ARTAMONOV, I.; BABINA, I.; BEREGOVSKIY, V.; BLOZHKO, V.;
 BRAVERMAN, A.; BYKHOVSKIY, Yu.; VINOGRADOVA, M.; GALANKINA, Ye.;
 GIL'DENBERG, F.; GLOBA, T.; GROMYVET, N.; GORDON, G.; GUL'DIN, I.;
 GULYAYEVA, Ye.; GUSHCHINA, I.; DAVYDOVSKAYA, Ye.; DAMSKAYA, G.;
 DERKACHEV, D.; YEVDOKIMOVA, A.; YEGUNOV, V.; ZABELYSHINSKIY, I.;
 ZAYDENBERG, B.; AZMOSHNIKOV, I.; ITKINA, S.; KARCHEVSKIY, V.;
 KLUSHIN, D.; KUVINOV, Ye.; KUZNETSOVA, G.; KURSHAKOV, I.;
 LAKERNIK, M.; LEYZEROVICH, G.; LISOVSKIY, D.; LOSKUTOV, F.;
 MALEVSKIY, Yu.; MASLYANITSKIY, I.; MAYANTS, A.; MILLER, L.;
 MITROFANOV, S.; MIKHAYLOV, A.; MYAKINENKOV, I.; NIKITINA, I.;
 NOVIN, R.; OGNEV, D.; OL'KHOV, N.; OSIPOVA, T.; OSTRONOV, M.;
 PAKHOMOVA, G.; PETTER, S.; PLAKSIN, I.; PLETENEVA, N.; POPOV, V.;
 PRESS, Yu.; PROKOF'YEVA, Ye.; PUGHKOV, S.; REZKOVA, F.; RUMYANTSEV, M.;
 SAKHAROV, I.; SOBOLO, S.; SPIVAKOV, Ya.; STRIGIN, I.; SPIRIDONOVA, V.;
 TIMKO, Ya.; TITOV, S.; TROITSKIY, A.; TOLOKONNIKOV, K.; TROFINOVA, A.;
 FEDOROV, V.; CHIZHIKOV, D.; SHEYN, Ya.; YUKHTANOV, D.

Roman Lazarevich Veller; an obituary. TSvet. met. 31 no.5:78-79
 My '58. (MIRA 11:6)

(Veller, Roman Lazarevich, 1897-1958)

1ST AND 2ND ORDERS		3RD AND 4TH ORDERS	
<p>DEKROCHEV D. I.</p>		<p>9</p>	
<p>PROCESSES AND PROPERTIES INDEX</p> <p>Interaction between silicates of nickel and sulfides of iron and calcium in melting. D. I. Dekrochev and A. A. Zeller. <i>Tsvetnye Met.</i> 1958, No. 7, 66-71. —Lab. expts. confirmed the views previously published by Jander and Rothschild (C. A. 22, 3817) and other investigators in regard to the possibility of melting oxidized Ni ores with pyrites or sulfides of Ca in refractory furnaces. It was found that the reactions $\text{NiSiO}_3 + \text{FeS} \rightleftharpoons \text{NiS} + \text{FeSiO}_3$ and $\text{NiO} + \text{FeS} \rightleftharpoons \text{NiS} + \text{FeO}$ go almost completely to the right, the equil. const. for the first reaction being 0.40×10^{-4} to 0.84×10^{-4}. Addn. of CaO and CaF₂ has little influence on the const. Addn. of charcoal shifts the equil. to the right, i. e., toward slags poorer in Ni. Reaction $\text{NiSiO}_3 + \text{CaS} \rightleftharpoons \text{NiS} + \text{CaSiO}_3$ goes to the right even more completely than the FeS reaction. These reactions go to the right both in oxidizing and neutral atm., in reducing atm. the reactions are complete and the slags are free from Ni, i. e., all Ni is converted into the sulfide form. The NiS formed in the above reactions is converted in the melt to Ni_3S_2. B. N. Daniloff</p>			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>1ST AND 2ND ORDERS</p>		<p>3RD AND 4TH ORDERS</p>	
<p>1ST AND 2ND ORDERS</p>		<p>3RD AND 4TH ORDERS</p>	

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSING AND PROPERTIES INDEX																			
<p>Electrolytic zinc at the Kirov works in Chelyabinsk D. I. Derkachov and V. N. Rozov. <i>Tsvetnye Metally</i>, 13, No. 6, 48-58 (1938); <i>Chem. Zvesti.</i> 1940, 1, 126. The limiting concn. of Zn in neutral electrolytes is given as 105 g./l.; that in spent electrolytes as 42-5 g. l. A Co content of 10-12 mg./l. and a reduced Zn content greatly reduce current efficiency. The production of a layer of foam on the bath is recommended to reduce the loss of electrolyte through fog formation (H₂ evolution). The use of 0.25 kg. cresol and 0.75 kg. glue for this purpose does not interfere with the electrolysis. On the other hand, this procedure results in the formation of a more dense and uniform Zn deposit and reduces the attack on the back side of the cathode and the Cu bars (which otherwise contaminate the bath with Cu) as well as other equipment. M. G. Moore</p>																			
<p>ASH-SLA DETAILING LITERATURE CLASSIFICATION</p>																			

MANOYLOV, S.Ye.; DERKACHEV, E.F.

Effect of X rays on cytochrome C in vitro. Vop. med. khim. 11 no.1:
95-96 Ja-F '65. (MIRA 18:10)

1. Tsentral'nyy nauchno-issledovatel'skiy rentgeno-radiologicheskii institut Ministerstva zdravookhraneniya SSSR i Leningradskiy khimiko-farmatsevticheskiy institut Ministerstva zdravookhraneniya RSFSR.

DERKACHEV, V.I.; PRIKHOD'KO, N.M.; TIKHONOV, A.A.

Double separation and reclamation of spent molding sand.
Lit. proizv. no.1:38-39 Ja '65.

(MIRA 18:3)

DERKACHEV, N. D.

The causes and the prevention of the yellowing of zinc white. N. D. Derkachov, E. I. Ablesimova and L. K. Matsko. *Izvestiya Khim. Nauch.-Issledovatel. Inst. Prikladnoi Khim.* 1940, No. 4, 78-91; *Khim. Referat. Zhur.* 4, No. 9, 127-8 (1941).—Zinc white, whether produced by pyro. or by thermal treatment, becomes yellow if more than 25% of Pb is present in the Zn. Yellowing is caused to a smaller degree by Cd in Zn. Whiteness can be restored by treatment with a mixt. of air, CO₂ and SO₂ at 250-70°. Addn. of SO₂, CO₂ and Cl₂ to the air used to oxidize Zn vapors produces white ZnO even if contaminated Zn is used. To avoid the formation of a considerable amt. of water-sol. compds. the amts. of SO₂ and Cl₂ in the air used for the oxidation must be regulated carefully. W. R. Hemm

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AND SEA METALLURGICAL LITERATURE CLASSIFICATION

DERGACHEV, V.

Gas meters for apartments. Zhil.-koms. khoz. 10 no.11:9-10 '60.
(Gas meters) (MIRA 13:11)

DOLGOPOLOV, N.N., kand.tekhn.nauk; DERKACHEV, V.A., inzh.

Electric separation of the waste material from dressing asbestos
ores. Stroi. mat. 8 no.4:19-22 Ap '62. (MIRA 15:8)
(Separators (Machines)) (Asbestos)

KRASNOVSKIY, G.A.; DERKACHEV, V.A.

Complex preparation of fine-grained shale with the use of external
beneficiation. Energotekh. ispol'. topl. no.2:160-170 '62.
(MIRA 16:4)

(Oil shales)

PRIKHOD'KO, N.M.; SAVOSTIN, V.P.; DERKACHEV, V.I.

Casting gear wheels in half-chills. Lit. proizv. no.6:39 Je '62.

(MIRA 15:6)

(Die casting)

DERKACHEV, V.I.; TIKHONOV, A.I.

Vertically-closed conveyor for casting rollers in chill molds.

Lit. proizv. no.6:39 Je '62.

(MIRA 15:6)

(Foundries--Equipment and supplies)

PRIKHODKO, N.M.; SAVOSTIN, V.P.; DERKACHEV, V.I.

Semichill casting of gear wheels. Ratsionalizatsiia no.12:
21 '62.

DERKACHEV, V.I., inzh.; PRIKHOD'KO, V.M., inzh.; TIKHONOV, A.A., inzh.

Double separation and distribution of used sand. Mashinostroenie
no.2:49-50 Mr.-Ap '65. (MIRA 18:6)

5.3700

2209, 1164, 1273

87777

S/063/60/005/006/012/014
A051/A026

AUTHORS: Razuvayev, G.A., Vyazankin, N.S., Dergunov, Yu. I., Pinchuk, N.M.

TITLE: The Reaction Between Hexaethyldistannane and Organic Haloid Derivatives

PERIODICAL: Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva im. D.I. Mendeleeva, 1960, Vol. 5, No. 6, pp. 707-708

TEXT: The authors have investigated the reactions of hexaethyldistannane with certain organic haloid derivatives in evacuated ampules at elevated temperatures. It has been shown on the example of bromine- and iodine-benzene, that halogene, bound to the benzene ring, is not detached by the hexaethyl-distannane, when heated to 180-190°C for a period of 20-30 hours. In all other cases it was found that the rate and direction of the reaction depends on the nature of the haloid derivative. The hexaethyldistannane was found to react easiest with triphenylchloromethane (4.5 hrs at 100°C) and with n-toluenesulfochloride (13 hrs at 100°C). In the first case the reaction takes place with the formation of triethylstannous chloride (yield 61.7% of the theoretical); and triphenylmethyl radicals. The presence of the latter was proven by the electronic paramagnetic resonance method. Triethyl stannous chloride (yield

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AO51/A026

The Reaction Between Hexaethyldistannane and Organic Haloid Derivatives

90.8%) and n-tolyltriethylstannylsulfon were formed from the reaction with the n-toluenesulfochloride. Yield of the second-18.7%, melting point 91-92°C (from alcohol). The structure of the sulfon has been verified by a counter synthesis, carried out in a medium of absolute alcohol (for 3 hours, at 78°C) with a yield of 44.2% of the theoretical:

$$n\text{-CH}_3\text{C}_6\text{H}_4\text{SO}_2\text{Na} + (\text{C}_2\text{H}_5)_3\text{SnCl} \longrightarrow \text{NaCl} + n\text{-CH}_3\text{C}_6\text{H}_4\text{SO}_2\text{Sn}(\text{C}_2\text{H}_5)_3 \quad (1)$$

Under more severe conditions (4 hours at 190-200°C) the hexaethyldistannane reacts with the benzene chloride. The formation of dibenzene (yield 35.4%) in addition to the triethylstannous chloride (yield 73.4%, proves that a reaction with a homologous separation of the σ - links takes place. It is assumed that this type of decomposition of the bonds is characteristic for the $(\text{C}_2\text{H}_5)_2\text{Sn}$ reaction with β -bromoethylbenzene, 1.4-dibromobutane, and 1.5-dibromopentane also, taking place at 200-210°C. In all these cases it was found that, in addition to the main process of triethylstannous bromide (yield 70.5, 72.5 and 82.4%, respectively) formation, the disproportionation of the hexaethyldistannane takes place also: $2(\text{C}_2\text{H}_5)_6\text{Sn}_2 \longrightarrow 3(\text{C}_2\text{H}_5)_4\text{Sn} + \text{Sn}$. (2). It is further assumed that reaction (2) is catalyzed by triethylstannous bromide in the

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A051/A026

The Reaction Between Hexaethyldistannane and Organic Haloid Derivatives

reactions discussed here, based on previously made assumptions (Ref. 2, the author), that reaction (2) is a catalytic one, just as the disproportionation of the hexaethyldiplumbane is (Ref. 1-3, the author). This assumption was confirmed by the thermostatic action of the mixture hexaethyldistannane and triethylstannous chloride, at 200-210°C (10 hours, molar ratio 1:2). Reaction (2) takes place more energetically in the presence of 3 moles of dichloroethylstannate and 2 moles of hexaethyldistannane (for a period of 1 h, at 200°C). The formed tetraethylstannate reacts with the dichloroethylstannate, forming triethylstannous chloride: $2(C_2H_5)_6Sn_2 + 3(C_2H_5)_2SnCl_2 \rightarrow 6(C_2H_5)_3SnCl + Sn$. (3). It is stressed that equation (2) describes only the final result. The reaction mechanism is thought to be complex from the following indications: during the reaction intensive wine-colored, presumably high-molecular compounds are formed, decomposing toward the end of the process, the stannous chloride is thought to play an important role in equation (2), usually identified when conducting the disproportionation in an excess of dichloroethylstannate. It was established that the $SnCl_2$ can cause changes not only in the hexaethyldistannane, but also in the more stable tetraalkyl

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S/063/60/005/006/012/014
AO51/A026

The Reaction Between Hexaethyldistannane and Organic Haloid Derivatives

derivatives of the tin. The following reaction is given as an example of the thermostatic action of equimolar quantities of tetraethylstannate and SnCl_2 (for 10 hours at 230°C): $2(\text{C}_2\text{H}_5)_4\text{Sn} + 2\text{SnCl}_2 \rightarrow 2(\text{C}_2\text{H}_5)_3\text{SnCl} + (\text{C}_2\text{H}_5)_2\text{SnCl}_2 + \text{Sn}$. (4) also taking place with the formation of dark-red colored intermediary compounds. Another fact proving the complexity of the reaction is given as being the fact that catalytic quantities of $(\text{C}_2\text{H}_5)_3\text{SnCl}$ and $(\text{C}_2\text{H}_5)_2\text{SnCl}_2$ (2% of the weight of hexaethyldistannane) do not bring about its complete conversion according to equation (2). It is pointed out that the interaction of the hexaethyldiplumbane with an excess of triethyl lead chloride triethylstannous chloride or dichlorodiethylstannate, takes place quite differently. In this case the disproportionation reaction is completely suppressed by the complex oxidation-reduction process. In conclusion the authors state that investigations are still being continued in this field. There are 3 Soviet references.

ASSOCIATION: Gor'skovskiy gosudarstvennyy universitet im. N.I. Lobachevskogo
(The Gor'kiy State University im. N.L. Lobachevskiy)

Card 4/4

DERI, M. (Budapest)

Investigations in the field of Seignetteoelectric mixed titanates.
Periodica polytechn chem 4 no.4:307-328 '60. (EEAI 10:5)

1. Institut fur Chemische Technologie der Technischen Universitat,
Budapest.

(Lead titanates) (Dielectrics) (Barium titanates)
(Ferroelectric substances) (Magnesium titanates)
(Zinc titanate) (Strontium titanates)
(Iron titanates) (Calcium titanates)
(Cadmium titanates)

88306

/6.2600

S/041/60/012/004/007/011
C111/C222

AUTHOR: Derkach, P.Kh.

TITLE: On an Application of the Legendre Polynomials

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1960, Vol. 12, No. 4,
pp. 466 - 671

TEXT: Let $P_n = P_n(x)$ be the Legendre polynomial

$$P_{n+1}(x) = \frac{1}{2^{n+1}(n+1)!} \frac{d^{n+1}(x^2-1)^{n+1}}{dx^{n+1}}$$

At first the author proves that the system of functions

$$(5) \quad \varphi_1(x) = P_{i+1} - \frac{2}{1(i+1)} P_1' ; \quad i = 1, 2, 3, \dots$$

where P_1' denotes the derivative of P_1 with respect to x , is orthogonal
on $(-1, +1)$. Then the functions φ_1 are used for the solution of

$$(6) \quad y'' + k^2 y = 0$$

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0111/0222

On an Application of the Legendre Polynomials

(oscillations of a homogeneous string of the length 2 with fixed ends).
Solving (8) according to Galerkin by putting $y = a_1 \varphi_1(x) + a_3 \varphi_3(x)$,
then the frequency determinant has the form

$$(10) \quad \Delta = \begin{vmatrix} \frac{12}{5}k^2 - 6 & -1 \\ -1 & \frac{5}{9}k^2 - \frac{85}{6} \end{vmatrix} = 0$$

Making a three-termed arrangement for y then for the determination of the frequency one obtains

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On an Application of the Legendre Polynomials

$$(11) \quad \Delta = \begin{vmatrix} \frac{12}{5}k^2 - 6, & -1, & -\frac{2}{5} \\ -1, & \frac{5}{9}k^2 - \frac{85}{6}, & -\frac{17}{5} \\ -\frac{2}{5}, & -\frac{17}{5}, & \frac{56}{195}k^2 - \frac{308}{15} \end{vmatrix} = 0.$$

Figure 3 shows the course of the function φ_1 , figure 2 shows the course of the individual harmonics of the rigorous solution. The comparison shows that the forms of oscillations of the string are described well by the functions φ_1 .

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On an Application of the Legendre Polynomials

Fig. 2

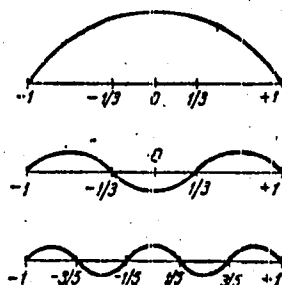
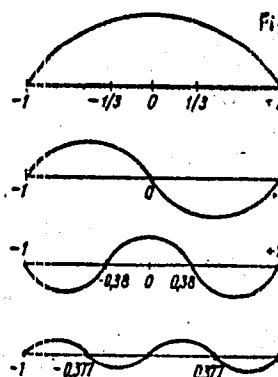


Fig. 3



There are 3 figures and 1 Soviet reference.

SUBMITTED: May 23, 1960

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DERKACH V.N., kand.med.nauk

Effectiveness of antibiotics in experimental staphylococcal intoxication under conditions of medicated sleep and the action of caffeine. Vrach.delo no.5:481-485 My '60. (MIRA 13:11)

1. Kafedra mikrobiologii (zav. - prof. B.L.Palant) i mikrobiologicheskiy otdel (zav. - prof. V.S.Derkach) Khar'kovskogo nauchno-issledovatel'skogo instituta vaktsin i syvorotok imeni I.I.Mechnikova.

(ANTIBIOTICS)

(STAPHYLOCOCCAL DISEASE)

(SLEEP)

(CAFFEINE)

FEDORCHENKO, I.M.; FANAIOTI, I.I.; DERKACHEVA, G.M.; DZYKOVICH, I.Ya.;
GORDAN', G.N.

Studies in the field of friction materials. Report No.2.
Porosh. met. 5 no.9:65-68 S '65. (MIRA 18:9)

1. Institut problem materialovedeniya AN UkrSSR i Institut
elektrosvarki imeni Patona AN UkrSSR.

FEDORCHENKO, I.M.; PANAIOTI, I.I.; DERKACHEVA, G.M.

Investigations in the field of friction materials. Porosh. met. 5
no.5:54-57 My '65. (MIRA 18:5)

1. Institut problem materialovedeniya AN UkrSSR.

40841-88 TUP(e)/E I(h)/EHP(+)/NTI/ESP(k) IJP(c) 20

ACC NR: AP6011240 (N) SOURCE CODE: UR/0413/66/000/006/0077/0077 17
B

INVENTOR: Fedorchenko, I. M. ; Panaioti, I. I. ; Derkacheva, G. M.

ORG: none

TITLE: Sintered friction material. Class 40, No. 179932 [announced by the Institute of Powder Metallurgy and Special Alloys AN UkrSSR (Institut metallokeramiki i spetsstavlav AN UkrSSR)] 16

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 77

TOPIC TAGS: sintered friction material, friction material 21

ABSTRACT: An Author Certificate has been issued for an iron-base sintered friction material containing silica and asbestos. To increase the heat resistance of the material, the following composition (%) is suggested: aluminum, 7-9; silica, 1-3; asbestos, 1-3; phosphorus, 0.7-1; manganese, silicon, nickel, chromium, sulfur, etc., up to 2; iron, the remainder. [Translation]

SUB CODE: 11, 20/ SUBM DATE: 04Dec63/ [LD]

Card 1/177LP UDC: 669.15' 715-192' :621.762

[33618-65 EWT(m)/EWP(j)/EWP(i)/EWT(b) P-4 JTP(c) JD/JG/RH
ACCESSION NR: AP5006446 S/0051/65/018/003/0526/0529

AUTHOR: Bashulin, P. A.; Derkacheva, L. D.; Distanov, E. G.; Peregudov, G. V.; Prokhorov, A. M.; Sokolovskaya, A. I.; Shigorin, D. I.

TITLE: Investigation of stimulated emission in solutions of rare-earth chelates

SOURCE: Optika i spektroskopiya, v. 18, no. 3, 1965, 525-529

TOPIC TAGS: rare earth compound, chelate, stimulated emission, laser action, laser material

ABSTRACT: To check on the feasibility of using rare-earth chelates for stimulated emission, the authors investigated frozen solutions of the Eu-, Tb-, and Sm-dibenzoylmethane (DEM), Eu- and Tb-benzoylacetonate (BA), Eu-(ethylenediamine-salicylaldehyde) (EDSA), Eu- and Sm-nitrosalicylaldehyde, a Eu- and Sm-picric acid, Eu-, Tb-, and Sm-acetylacetonate, Tb-vinyl salicylate, Eu-salicylaldehyde, and Eu-(di-methyl benzoate) complexes. Only the first six of these compounds withstood the action of strong light pulses and could be obtained in solution of required concentration ($\sim 10^{-2}$ mole/liter). The solvents were various mixtures and pure substances forming glasslike matrices at low temperatures. The absorption and luminescence

Card 1/3

L 35618-64

ACCESSION NR: 1P5006446

2

spectra of the indicated six compounds were investigated. Typical data on the frequencies and relative intensities at the maxima of the most intense luminescence lines are listed in Table 1 of the Enclosure. The line widths given are for a temperature -150C, when the intensity of luminescence increases noticeably. The coefficients of negative absorption were estimated from the absolute luminescence brightness of the investigated substance by comparing the luminescence intensity with the radiation intensity of a source with known absolute brightness at the same wavelength. The results are listed in Table 2 of the Enclosure. It is pointed out that the data depend on various experimental conditions. In the case of the complex $\text{Eu}(\text{BA})_3$, a spiked generation mode could be attained with a 1200 Joule pump power. "The authors are grateful to V. V. Kurnetsova and L. A. Novikova for synthesis and supply of some of the investigated compounds." Orig. art. has: 4 figures, 1 formula, and 2 tables. [02]

ASSOCIATION: none

SUBMITTED: 13Apr64

ENCL: 01

SUB CODE: EC, IC

NO REF SOV: 0/2

OTHER: 002

ATD PRESS: 3220

Card 2/3

1 35618-65

ACCESSION NR: AP5006446

ENCLOSURE: 01

Table 1. Relative intensities of stimulated emission lines of rare-earth chelates

Substance	$\lambda, \text{\AA}$	I_{rel}	$I_{\text{rel}}, \text{un.}$
Eu (DEM) ₃	6126	95	21
	6154	100	30
	6171	88	—
Eu (BA) ₃	6131	100	21
	6150	80	—
	6140	54	—
Eu (EDSA) ₂	6169	100	40
	6190	50	—
Tb (DEM) ₃	5420	—	11
	5430	100	28
	5438	70	—
Tb (BA) ₃	5820	31	—
	6454	—	37

Table 2. Negative absorption coefficients of rare-earth chelate lines

Substance	$\lambda, \text{\AA}$	$c, \text{mole/l}$	K, cm^{-1}
Eu (DEM) ₃	6154	10^{-3}	$1 \cdot 10^{-3}$
Eu (BA) ₃	6131	10^{-3}	$8 \cdot 10^{-4}$
Eu (EDSA) ₂	6169	10^{-4}	$1 \cdot 10^{-4}$
Tb (DEM) ₃	5420	10^{-4}	$8 \cdot 10^{-3}$
Tb (BA) ₃	5430	10^{-3}	$2 \cdot 10^{-4}$
Sm (DEM) ₃	6454	10^{-3}	$2 \cdot 10^{-4}$

Cord 3/3

DERKACHEVA, L. D.

DERKACHEVA, L. D. : "Investigation of concentration effects in solutions of dyes of the cyanine series". Moscow, 1955. Moscow State U imeni M. V. Lomonosov, Physics Faculty. (Dissertations for the degree of Candidate of Physicomathematical Sciences.)

SO: Knizhnaya Letopis' No. 50. 10 December 1955. Moscow

DERKACHEVA, L.D.

USSR/ Optics

K

Abs Jour: Referat Zhur-Fizika, 1957, No 4, 10408

Author : Derkacheva, L.D.

Inst : Moscow State University, USSR

Title : Concentration Effects in Solutions of Dyes of the Cyanine Series.

Orig Pub: Izv. AN SSSR, ser. fiz., 1956, 20, No 4, 410-418

Abstract: An investigation was made of the dependence of the association of molecules of the cyanine dyes and their structure and properties of the solvent. It is shown that as the dielectric constant of the solvent. It is shown that as the dielectric constant of the solvent [ethyl alcohol. ($\epsilon = 27.8$) glycerine ($\epsilon = 56.2$) and water ($\epsilon = 81$)] increases, there is an increase in the association of the molecules, which manifests itself in the change in the absorption spectra and fluorescence. This fact is explained by the reduction in the Coulomb repulsion between like positively charged ions of the dye with increase in the dielectric constant medium. It is established that

Card : 1/2

USSR / Optics

K

Abs Jour: Referat Zhur-Fizika, 1957, No 4, 10408

the association becomes also reinforced when the dimensions of the π -electron cloud of the molecule increases, i.e., the association depends on the interaction between the π -electron shells of the molecules.

Card : 2/2

AUTHOR: Derkachova, L.D.

SOV/51-5-5-8/23

TITLE: Investigation of the Effect of the Position of Substituents on the Intensities and Frequencies of Absorption by Certain Naphthalene Derivatives (Issledovaniye vliyaniya polozheniya zamestiteley na intensivnost' i chastoty pogloshcheniya nekotorykh proizvodnykh naftalina)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 5, pp 542-552 (USSR)

ABSTRACT: Absorption spectra of ten oxy-derivatives and ten acetoacetoxy-derivatives of naphthalene were obtained. Doubly distilled absolute ethyl alcohol, dichloroethane, amyl acetate were used as solvents; the solution concentrations were from 3 to 5×10^{-4} g/cm³. Measurements were made on a SF-4 spectrophotometer at room temperature. The absorption spectra of solutions of naphthalene and its oxy-derivatives in ethyl alcohol are given in Fig 2. The absorption spectra of the acetoacetoxy-derivatives of naphthalene (also in ethyl alcohol) are given in Fig 6. The structural formulae of the twenty naphthalene derivatives studied are given near the appropriate spectra in Figs 2 and 6. The coordinate axes in Figs 2 and 6 represent the absorption coefficient α in cm²/g and the wavelength λ in m μ . Measurements of the intensities and frequency shifts, compared with naphthalene, are

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SOV/51-5-5-8/23

Investigation of the Effect of the Position of Substituents on the Intensities
and Frequencies of Absorption by Certain Naphthalene Derivatives

interpreted in terms of "spectroscopic moments" (Refs 1-3). The author compares values calculated, using the spectroscopic moments theory, with the experimental values of the molar coefficient of extinction and the electron transition frequency. This comparison is given graphically in Figs 3-5 for three electron transitions in the oxy-derivatives of naphthalene. In Figs 7-9 a similar comparison is made for the acetoacetoxy-derivatives. The three electron transitions referred to above occur in naphthalene at : (I) 31700 cm^{-1} , (II) 34900 cm^{-1} , and (III) 45250 cm^{-1} . The calculated values in Figs 3-5, 7-9 are shown by dashed curves, while the experimental values are shown as continuous lines. The following conclusions are made by the author. (1) The absorption spectra of the electron transitions I and II of oxy-derivatives and acetoacetoxy-derivatives of naphthalene are shifted towards longer wavelengths and are more intense compared with the naphthalene spectrum. (2) This shift and intensity increase are satisfactorily explained by the Sklar--Förster theory of spectroscopic moments. (3) The vector addition of

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SOV/ 51-5-5-2/23

Investigation of the Effect of the Position of Substituents on the Intensities and Frequencies of Absorption by Certain Naphthalene Derivatives

spectroscopic moments may be applied in calculations of the intensities and frequencies of poly-derivatives of aromatics in the case of the electron transitions I and II. Such an addition cannot be used for moments of the III transition. The authors thank V.L. Levshin for advice and V.V. Perekalin for supply of the naphthalene derivatives. There are 9 figures and 6 references, 5 of which are American and 1 German.

SUBMITTED: December 16, 1957

Card 3/3 1. Naphthalenes--Spectra 2. Naphthalenes--Electron transistions
3. Spectrophotometers--Performance

DERKACHEVA, L.D.

24(8)

PHASE I BOOK EXPLOITATION

SOV/2809

Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk

Termodinamika i stroeniye rastvorov; trudy soveshchaniya...
(Thermodynamics and Structure of Solutions; Transactions of the
Conference Held January 27-30, 1958) Moscow, Izd-vo AN SSSR,
1959. 295 p. 3,000 copies printed.

Ed.: M. I. Shakhparonov, Doctor of Chemical Sciences; Ed. of Publishing
House: N. G. Yegerov; Tech. Ed.: T. V. Polyakova.

PURPOSE: This book is intended for physicists, chemists, and
chemical engineers.

COVERAGE: This collection of papers was originally presented at the
Conference on Thermodynamics and Structure of Solutions sponsored
by the Section of Chemical Sciences of the Academy of Sciences,
USSR, and the Department of Chemistry of Moscow State University,
and held in Moscow on January 27-30, 1958. Officers of the
conference are listed in the Foreword. A list of other reports
also read at the conference, but not included in this book,
are given. Among the problems treated in this work are:
electrolytic solutions, ultrasonic measurement, dielectric
and thermodynamic properties of various mixtures, spectro-
scopic analysis, etc. References accompany individual articles.

Lavshin, V. L., Ye. G. Baranova, L. D. Derkacheva, and
L. V. Levshina. Study of Association in Concentrated
Solutions of Dyes by Means of Absorption and Luminescence
Spectra 275

X Levshina, L. V. Effect of Ionisation and Association on
Optical Properties of Complex Organic Molecules 285

DERKACHEVA, L.D.; ZHEVANDROV, N.D.; KHAN-MAGOMETOVA, Sh.D.

A fluorescence method for determining small quantities of bacteria
[with summary in English]. Biofizika 4 no.1:117-119 Ja '59.

(MIRA 12:1)

1. Institut biologicheskoy fiziki AN SSSR, Moskva i Fizicheskiy
institut im. P.N. Lebedeva AN SSSR, Moskva.

(BACTERIA,

determ. of small quantities by luminescent
method (Rus))

(LUMINESCENCE,

luminescent method of determ. of small quantities
of bact. (Rus))

S/051/60/009/002/010/013/XX
E201/E491

AUTHOR: Derkacheva, L.D.

TITLE: Dependence of Fluorescence of Naphthalene Derivatives
on the Concentration of Hydrogen Ions in a Solution

PERIODICAL: Optika i spektroskopiya, 1960, Vol.9, No.2, pp.209-214

TEXT: The author recorded the absorption and luminescence spectra of nine derivatives of naphthalene in solution at various values of the solution pH. There derivatives were: β -naphthol, α -naphthol, 1,2-naphthol, 1,5-naphthol, 1,7-naphthol, 1,8-naphthol, 2,3-naphthol, 2,6-naphthol, 2,7-naphthol. The absorption and luminescence spectra were recorded with a spectrophotometer СФ-4 (SF-4). A photomultiplier ФЭУ-18 (FEU-18) was used as a receiver; the photomultiplier signal was amplified and recorded automatically with a potentiometer ЭПП-51 (EPPV-51). A mercury lamp СВШ-1000 (SVDSH-1000) was used as a source. In alkaline solutions (pH = 13) naphthols were in ionic form and their absorption and luminescence spectra were shifted considerably towards longer wavelengths; in most of them the structure disappeared and the spectra were broadened. The author determined also the ratios of the relative luminescence yield of undissociated molecules and ions as a function of pH (Figs.1 and 2). From these ratios the author deduced the

S/051/60/009/002/010/013/XX
E201/E491

Dependence of Fluorescence of Naphthalene Derivatives on the
Concentration of Hydrogen Ions in a Solution

dissociation constants in the ground and excited states, as well as the rates of protolytic reactions. Fig.4 gives the dependence of the dissociation constants on the rate constants of protolytic reaction. Displacements of the zero electron transition on dissociation were used to find the difference between the dissociation constants in ground and excited states. Fig.3 shows schematically the dissociation energies of a molecule in the ground and excited states, as well as excited and ground-state energies of ions. There are 4 figures, 3 tables and 7 references: 1 Soviet, 5 German and 1 Japanese. ✓

SUBMITTED: November 23, 1959

Card 2/2

S/051/62/012/002/020/020
E032/E514

AUTHOR: Derkacheva, L.D.

TITLE: On the symmetry of the third excited state of
naphthalene

PERIODICAL: Optika i spektroskopiya, v.12, no.2, 1962, 329-330

TEXT: The authors report the short-wave absorption (190-260 mμ) of naphthalene and eight of its dioxy derivatives. Heptane and ethyl alcohol were used as the solvents. The spectrum of naphthalene in this region consists of a single absorption band with a maximum at 221.5 mμ. The derivatives may have either one or two bands. Analysis of these spectra lead the author to the conclusion that the third excited state of naphthalene has the B_{1u} symmetry. Transitions from the ground fully symmetric state into a state with this symmetry should have longitudinal polarization (along the z-axis), which is in accordance with theoretical calculations (Ref.1: J. R. Platt. J.Chem.Phys., 17, 484, 1949; Ref.9: C. A. Coulson. Proc. Phys. Soc., 60, 257, 1948). There are 2 figures.

SUBMITTED: April 8, 1961
Card 1/1

L 10752-63 EWP(j)/EWT(1)/EWT(m)/HDS--AFFTC/ASD/SSD--Pc-4--GG/EM
ACCESSION NR: AP3003426 S/0051/63/015/001/0138/0139

AUTHOR: Derkacheva, L. D.

TITLE: On negative absorption by some organic compounds

SOURCE: Optika i spektroskopiya, v. 15, no. 1, 1963, 138-139

TOPIC TAGS: liquid laser, organic laser, negative absorption, naphthol

ABSTRACT: A theoretical study shows that it is possible to develop an organic liquid laser by using solutions of organic substances, such as naphthols and acridines, which in the excited state show a strong shift of the dissociation constant in relation to the ground state. A specific example is calculated for a water solution of beta-naphthol (10^{19} molecules per cm^3) showing that population inversion and laser action can be established at a pumping energy of 0.01 Joule delivered in 10^{-8} sec, which is quite within the capacities of modern flash lamps. The pumping source

Card 1/2

L 10752-63
ACCESSION NR: AP3003426

must be selected to include the appropriate absorption spectrum. The condition of nonabsorption of induced emission by excited molecules, which is required for a population inversion to be established, is fulfilled in beta-naphthol, because transition from the first to the third excited electron level is forbidden. Orig. art. has: 4 formulas.

ASSOCIATION: none

SUBMITTED: 04Apr68

DATE ACQ: 30Jul68

ENCL: 00

SUB CODE: 00

NO REF SOV: 002.

OTHER: 005

inv/04
Card 2/2

BAZHULIN, P.A., doktor fiz.-matem.nauk; DERKACHEVA, L.D., kand.fiz.-matem.nauk

Congress on quantum radio physics. Vest. AN SSSR 33 no.8:91-93
Ag '63. (MIRA 16:8)

(Quantum theory) (Radio)

DERKACHEVA, Z.N.; KIR'YAKOV, M.A.

Case of free autoplasty with a "sieve" skin graft. Ortop.
travm.i protez. 21 no.2:62-63 P '60. (MIRA 13:12)
(SKIN GRAFTING)

BUGAYEV, M. [Buhaiov, M.]; DERKACHOVA, O.

A strong building materials production base guarantees rhythmic construction. Sil'. bud. 12 no.10:16-17 0 '62. (MIRA 15:10)

1. Zamestitel' predsedatelya soveta Volinskogo oblastnogo mezhkolkhoznogo stroitel'stva (for Bugayev).

(Building materials industry)
(Volyn' Province—Collective farms—Interfarm cooperation)

DERKACZ, Zbigniew (Wroclaw)

The Dzialoszyn Cement Plant. Przegl budowl i bud mieszk 34
no.8:447-451 Ag '62.

DERKACZOWA 2
✓ Preparations of decoctions from radix ipsecacuanhae, semen strychni, and cortex cinchonae by means of the accelerated evacuation method. Z. Olszewski and M. Derkaczowa. *Acta Polon. Pharm.* 13, 147-53 (1956) (English summary).—Percolation, evacuation (filtration under diminished pressure), and accelerated evacuation (24 hr. lixiviation by means of the Kessler app.) were compared as methods for extg. radix ipsecacuanhae, semen strychni, and cortex cinchonae. The methods took less time and resulted in more thorough leaching out of active substances in the order given. Decoctions or dry exts. were obtained from the extd. liquids.
P. Dreyfuss

2

DERKANOSOV, N.I.

USSR/Chemical Technology - Chemical Products and Their
Application. Fermentation Industry.

I-12

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2814

Author : Derkanosov, N.I., Osipov, M.F.

Inst : -
Title : Hermetic Sealing of Yeast-Growing Apparatus.

Orig Pub : Khlebopek. i konditersk. prom-st;, 1957, No 7, 42-44

Abstract : Description of the work on hermetic sealing of the basic
yeast growing apparatus, conducted at the Voronezh yeast
plant, in order to carry out the process of yeast propa-
gation under sterile conditions.

Card 1/1

ACC NR: AP7000334

(A)

SOURCE CODE: UR/0413/66/000/022/0085/0085

INVENTOR: Kosach, A. V.; Derkanosov, Yu. A.; Iyevin'sh, Ya. K.; Rozenberg, Ya. Ya.

ORG: none

TITLE: Remote-control cable linkage of the hydraulic distributor of a tractor-mounted loader. Class 35, No. 188639

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 85

TOPIC TAGS: tractor, agricultural machinery, tractor mounted implement, *REMOTE CONTROL SYSTEM*

ABSTRACT: An Author's Certificate has been issued for a remote-control cable linkage for the hydraulic distributor of a tractor-mounted loader having a hinged arm atop a king post. The distributor levers are rigidly fixed to the ends of the cables, which pass around the blocks located on the distributor support and through lead-ins having adjustable tension screws. The cables leading to the control pedestal are sheathed in flexible sleeves fastened to the rotary disks of the control-pedestal levers. This design improves the control maneuverability of the loader on various cab-type tractors. Orig. art. has: 2 figures.

SUB CODE: 13/ SUBM DATE: 24Jul63/

Card. 1/1

UDC: 621.869.447-82-519

DERKASOV, G.M., inzh.

Study of rubber shock absorbers for freight car trucks. Vest.
(MIRA 13:1)
TSNII MPS 18 no.5:40-42 Ag '59.
(Railroads--Freight cars)

DERKASOV, G.M., inzh.

Results of the testing of rubber-metal springs. Vest. TSNII MPS 24
no.5:38-41 '65. (MIRA 18:9)

DERKASOV, G.M., inzh.; GRACHEVA, L.O., kand.tekhn.nauk

Modernization of the spring suspension of the freight car truck.
Vest. TSNII MPS 20 no.7:44-46 '61. (MIRA 14:12)
(Car trucks (Railroads))

BLINOVA, Z.A.; VINNITSKIY, L.Ye.; DERKASOV, G.M.; FILIPPOVA, L.S.,
red.; VASIL'YEVA, N.N., tekhn. red.

[Shock absorbers with rubber parts for railroad rolling stock]
Amortizatory s rezinovymi detaliami dlia podvizhnogo sostava.
Moskva, Transzheldorizdat, 1962. 22 p. (MIRA 15:9)
(Shock absorbers) (Railroads—Cars)

DERKEMBAYEV, N.

Toguz-Torousskiy District, Tien Shan Province; concise economic
and geographical study. Izv. AN Kir. SSR. Ser. est. i tekhn. nauk
(MIRA 15:9)
3 no.5:55-68 '61.
(Toguz-Torousskiy District—Economic geography)

DERZEMBAYEV, N.

Kochkorka District, Tein Shan Province; concise economic and
geographical study. Izv. AN Kir. SSR. Ser. est i tekhn. nauk
3 no.5:69-79 '61. (MIRA 15:9)
(Kochkorka District—Economic geography)

DESI, Illes; SIMON, Gyorgy; SASVARI, Karoly; DEDEKAY, Eva; Technikai munkatars:
TOTCER, Rozalia

Effect of cardiopathogenic diets on the spasm threshold in electric
shock. Kiserl. orvostud. 16 no.4:337-343 Ag '64.

1. Budapesti Orvostudományi Egyetem Korelettani Intézete.

DERKIC, Boris, ing. (Bor, Dure Dakovica 2-7)

The solution of the problem of classification and catching of waste balls and broken bars from the flotation mill. Tehnika Jug 17 no.3:484-488 '62.

1. Upravnik flotacije Rudarsko-topioninarskog bazena u Boru.

DERKIC, Boris, inz. (Tuzla, Rudarska 172)

Building of a dam on the flotation dump of the Bor Mines.
Tekhnika Jug 17 no.12: Supple. Rudarstvo metalurg 13 no.12:
2281-2283 D '62.

1. Upravnik pogona flotacije u Boru.

DERKO, H.
Poland/Physical Chem. Crystals

B-5

Abs Jour : Referat Zhur - Khimiya No 7, 1957, 22068

Author : Derko

Inst : Not given

Title : The influence of conditions of precipitation upon the structure of alkali earth metal carbonates.

Orig Pub : (Wplyw war kow stracania na strukture weglanow ziem alkali-
eznych. Derko halina). Elektronika, 1955, 1, No 1-2, 39-48
(Polish)

Abstract:: This is a survey of the relation of the structure of alkali earth metal carbonates (used as a base in preparing the emissive capabilities of oxide cathodes depending on them) to the temperature of precipitation of carbonates and to the concentration of initial salts, the composition of components being fixed at a given percentage. It was discovered that the most regular crystalline structure of mixed carbonates (Ba, Sr.) and the highest emissive capacity in electronic tubes are found in the composition of double-carbonates of 50:50 mol. % and at the precipitation temperature of 920. The best conditions of precipitation of carbonates (Ba, Sr, Ca) at the

Card 1/2

-26-

41767
S/194/62/000/008/036/100
D295/D308

13170

AUTHOR: Derko, Halina

TITLE: Investigation of binders used in emission pastes

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 8, 1962, abstract 8-3-36 ya (Przegl. elektron.,
v. 2, no. 8, 1961, 498 - 503 [Pol.])

TEXT: The process of activation of an oxide cathode depends considerably on the composition and concentration of the binder used in preparing the carbonate paste. In connection with this, a comparative investigation of the decomposition process of carbonate pastes with various binders has been carried out. The method of investigation was based on measuring the total pressure of the gases evolved in the heating process of the paste as a function of temperature; this measurement enables one to observe the chemical processes occurring in the paste under high-vacuum conditions at high temperatures (the decomposition of the binder and of carbonates of alkaline-earth metals). Two types of binders were investigated, one based on nitrocellulose and the other based on polymers of methyl
Card 1/2

Investigation of binders used in ...

S/194/62/000/008/036/100
D295/D308

acrylate with various types of solvents. The results of the investigation are shown in the form of decomposition curves both of the binders themselves and of the emission pastes deposited on cathode bases of various design (a sarong type and a lamellar cathode). The data obtained show that binders with methyl acrylate decompose at higher temperatures. The analysis of the curves enables one to establish a critical temperature and an optimum rate of temperature increase for a given pumping speed. 3 references. (Przemyslowy Inst. Elektroniki, Poland.) [Abstracter's note: Complete translation.]

Card 2/2

45766

S/194/62/000/012/069/101
D295/D308

26.2012

AUTHORS: Taczanowski, Andrzej, Derko, Halina and Żbikowski,
Antoni

TITLE: The influence of oxide cathode bombardment by Ar ions
on its noise

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,
no. 12, 1962, 12, abstract 12 Zh 78 (Prace przemysł.
inst. elektroniki, v. 2, no. 1, 1961, 71-74 (Pol.))

TEXT: Results are given of an experimental investigation of the
effect of the bombardment of an oxide cathode by Ar ions on the
emission current I_e and on the equivalent noise current I_n of a
diode. I_n is measured by the comparison method at a frequency of
4 Mc/s. The experiment is carried out at an Ar pressure of 2×10^{-5}
mm Hg, bombardment voltage of 392 V and bombardment currents of
0.2 ($\sim 25 \mu\text{a}/\text{cm}^2$) and 1.2 μa . It was found that I_n decreases with
increasing I_e . When bombardment is prolonged for 6 hours, a slow
Card 1/2

The influence of ...

S/194/62/000/012/069/101
D295/D308

increase of I_n is observed for a constant I_e . It is shown that ion bombardment affects cathode noise in view of the variation of the emission layer structure. /-Abstracter's note: Complete translation. /

Card 2/2

S/275/63/000/001/007/035
D469/D308

AUTHOR: Derko, Halina

TITLE: Simplified method for obtaining cathodes impregnated with nickel

PERIODICAL: Referativnyy zhurnal, Elektronika i yeye primeneniye, no. 1, 1963, 16, abstract 1A 76 (Prace przemysł. inst. elektroniki, v. 2, no. 2, 1961, 11-18 (Pol.; summaries in Eng. and Rus.))

TEXT: The initial substance used in this method is a nickel powder with grain diameter $< 32 \mu$, containing a trace of silicon (0.017%) and magnesium (0.005%). A tungsten powder (1 to 3%), with grain diameter up to 10μ , is added for activation. The powder is etched in acetic acid and then annealed in medium of dry hydrogen at 800°C and subsequently at 1050°C . The cathodes are formed in appropriately constructed molds at the pressure of 2 ton/cm^2 ; the porosity thus obtained is 38 to 42%. To increase the porosity, one adds NH_4HCO_3 to the nickel powder. Compressed specimens are caked in a

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hydrogen atmosphere at 1100°C during 30 minutes. The most crucial stage of technological preparation is the impregnation of cores. The first method consists of saturation of porous nickel cores with barium-strontium-calcium acetates; these are then carbonized by submerging them in a saturated solution of ammonium carbonate. The second method consists of introducing barium hydrate into the pores of a core and so heating them in an oven at temperatures near to the melting temperature of the hydrate. The coefficient of pore filling is several times higher in the second method than in the first. The technological process consists of only two operations: impregnation with a hydrate and creation of carbonate by submerging a specimen in a solution of ammonium carbonate. A simplified version of the second method is described in which only one operation occurs, namely the impregnation of cores with barium, strontium and calcium hydrates. The latter are obtained from a mixture of carbonates heated in a muffle oven in an atmosphere of humid hydrogen. The impregnation can also be made in hydrogen at the temperature of 400°C . The investigation of experimental cathodes has shown that, during initial times of operation, they discharge

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gases considerably. The emission was stabilized during 50 to 100 hours while activation took place at low incandescence temperatures and simultaneous current output; a stabilized emission of 0.6 to 0.8 A/cm² is maintained during 3 to 4 hours at a cathode temperature of 830°C. 8 references.

ASSOCIATION: Przemysłowy Inst. Elektroniki, Poland
/ Abstracter's note: Complete translation. /

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ary 5, 1964.

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Relations of the surface and underground layers in the Trebinje-Grahovo area. Geol glas BiH 9:155-162 '64.

1. Submitted July 2, 1964.

DEBKOVSKAYA, I.

"Preparation and Investigation of Adhesive Urea Formaldehyde Resin Combined With Diethylene Glycol." Cand Tech Sci, Moscow Chemicotechnological Inst, Moscow, 1953. (RZhKhim No 7 Apr 55)

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DARKOVSKAYA, I. I.

4
2 May
1-4E 20 (y)

1/ Diethylene glycol-modified urea-formaldehyde resin.
G. S. Petrov and I. I. Darkovskaya. *Khim. Prom.* 1953,
No. 8, 23-8; *Rezhim. Zashch. Khim.* 1956, Zhurn. No. 27137.
—By condensation of urea (I) with formaldehyde (II) in two
stages (at pH 4.5-5.3, and afterwards at pH 7.5-8.5), a resin
is obtained which, after partial dehydration, contains with
diethylene glycol (III). The ratio of the components is:
1:1 mole, II:1 mole, III: 50% by wt. of I. NH₄OH 10% by
wt. of I. It is established that the introduction of III in the
I-II resin considerably improves the storage quality, resist-
ance to freezing, and the elasticity of the resin. II is
chemically bonded, entering into the resin complex by form-
ing an ether bond similarly to monomers. During the
III-modified resin solidification by maleic acid at ~20°,
approx. 1.4-1.5% of volatiles are lost with 0.04% being II.
The volatiles evolve for a long time, but most intensively
for the 2 hrs. after the catalyst introduction.

Synthetic resin: S. B. Petrov, L. M. [illegible] and L. L. [illegible]
U.S.S.R. 104,445, Jan. 1957. 51
The synthetic material resin is obtained in first partly
condensing with H₂O in the presence of bases, and
the product is further condensed with furfural.
M. Hogen

3
NEO
SUMMARY

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PETROV, G.S., doktor tekhnicheskikh nauk; DERKOVSKAYA, I.L., kandidat
tekhnicheskikh nauk; PESIN, L.M.

Carbamide glues for wood gluing. Der. prom. 6 no.3:14-16
Mr '57. (MLRA 10:5)

1. Nauchno-issledovatel'skiy i proyektnyy institut plastmass.
(Urea)

AUTHORS: Petrov, G. S. (Deceased), Doctor of Technical Sciences, Derkovskaya, I. L., Candidate of Technical Sciences 64-58-3-7/20

TITLE: Hardener for the Foundry Production Based on Synthetic Carbamide Resins (Krepiteli na osnove sinteticheskikh karbamidnykh smol dlya liteynogo proizvodstva)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 3, pp 27-29 (USSR)

ABSTRACT: In order to remove the disadvantages of the hardeners on the basis of urea formaldehyde resins as used hitherto, a mixture with a concentrate of a sulfite-alcohol elutriating was worked out in the NIIPM in co-operation with the TsNIITmash, with condensation experiments at different pH values. It was observed that the condensation is to take place at pH = 7.5 - 8.5. An optimum recipe is given as well as the preparation technique and an analysis table. A variation in the duration of the condensation of this hardener (MSE) showed only a remarkable effect on the viscosity. The experiments on the effect of low temperatures -30°, -35° showed that at a restoration of the room temperature a liquefaction of the hardener takes place again. Physico-mechanical tests which were made in the TsNIITmash according to GOST 2138-51 as well as experiments in dif-

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ferent machine building plants proved that the hardener MSB shows some advantages compared to the oil hardener 4 GU as used hitherto. A consumption of oil and technical fats is avoided, the drying is accelerated by 25-40% and reduced to a temperature of 30-40°, and thus the removal of the cores is simplified. On the other hand the production of the MSB hardener is more simple and cheaper than that of the earlier developed MF, its stability being inferior by 40-50%. There are 5 tables, and 3 references, 2 of which are Soviet.

1. Molding materials--Hardening
2. Urea-formaldehyde resins
- Effectiveness
3. Molding materials--Preparation

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